106-15.05 SR
1/1/85 OR 4,491,479

United States Patent [19]

Lauchenauer

[11] **Patent Number: 4,491,479**

[45] **Date of Patent: Jan. 1, 1985**

[54] SHAPED SEMI-SOLID ARTICLES

[76] Inventor: **Alfred E. Lauchenauer,** Bogenstrasse, CH-9326 Horn, Switzerland

[21] Appl. No.: **550,760**

[22] Filed: **Nov. 10, 1983**

[30] **Foreign Application Priority Data**

Nov. 12, 1982 [GB] United Kingdom 8232394

[51] **Int. Cl.**[3] **C09D 5/14;** C08L 1/08; A61L 15/00

[52] **U.S. Cl.** **106/15.05;** 106/189; 106/208; 128/156

[58] **Field of Search** ..... 106/126, 128, 189, 208, 106/213, 15.05; 523/102; 252/522 A, 522 R; 128/156

[56] **References Cited**

U.S. PATENT DOCUMENTS

3,398,007 8/1968 Pillerdorf et al. 106/128
4,128,507 12/1978 Mitzner ..... 252/522 A

Primary Examiner—Theodore Morris

[57] **ABSTRACT**

The invention relates to the formation of a semi-solid article by providing a mixture of monomeric aliphalic or aliphatic polyhydroxy compound and the polymeric polyhydroxy compound which is insoluble in the polyhydroxy compound at room temperature, but is soluble therein at elevated temperatures, forming shaped article from said mixture, heating the shaped article so formed so that the polymeric polyhydroxy compound dissolves in a monomeric polyhydroxy compound and cooling the shaped article while maintaining the shape thereof. This produces a semi-solid material which behaves like a solid in the sense that it retains its shape in the absence of chemical stress and resists deformation if mechanical stress is applied and exhibits elasticity if deformed and is restored in a substantial degree to its original shape if mechanical stress causing the deformation is released. It has been found that these semi-solid articles so formed are hydrophilic in that the material is capable of absorbing water or aqueous solution in substantial amounts. The invention also includes slow release device incorporating the semi-solid article produced by the method of the invention.

20 Claims, No Drawings